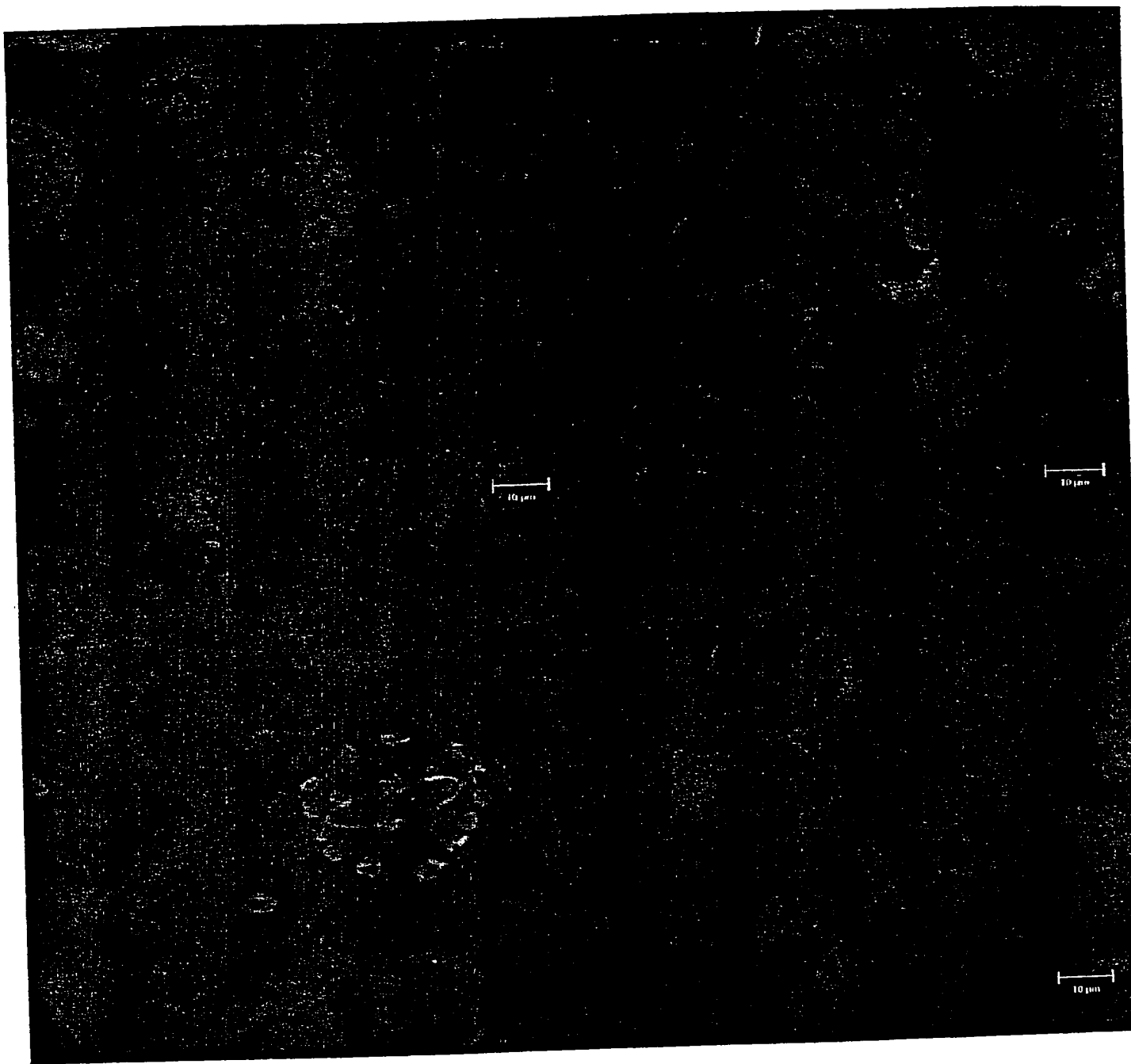


Figure 1

MASLRLFSTN	HQSLLLPSSL	SQKTLISSPR	FVNNPSRRSP	IRSVLQFNRK	PELAGETPRI	60
.....	.....	.....	.....	MVFSTGNGNG	DDNSKGLERV	20
.....	.....	.....	.....	.....	.....MNRI	4
.....	.....	.....	.....	.....	.....MARI	4
VVITSGKGGV	GKTTTTANVG	LSLARYGFSV	VAIDADLGLR	NLDLLLGLEN	RVNYTCVEVI	120
IVITSGKGGV	GKTTTTANLG	MSIARLGYRV	ALIDADIGLR	NLDLLLGLEN	RVLYTAMDIV	80
IVVTSGKGGV	GKTTTTANLG	AALARLGKKV	VLIDADFGLR	NLDLLLGLEQ	RIVYTAIDVL	64
IVVTSGKGGV	GKTTSSAAIA	TGLAQKGKKT	VVIDFDIGLR	NLDLIMGERR	RVVYDFVNVI	64
*****	*****					
NGDCRIDQAL	VRDKRWSNFE	LLCISKPRSK	LPMGFGGKAL	EWLVDALKRT	PEFSPDFIII	180
EGQCRIDQAL	IRDKRWKNLA	LLAISKNRQK	YNVTT..KNM	QNLIDSVK..	.ELGFQFVLI	135
EDECTIDQAL	VKDKRLPNLV	LLPAAQNRSK	DAINAEQMSQ	..LVEQLK..	..DKFDYIII	118
QGDATLNQAL	IKDKRTENLY	ILPASQTRDK	DADLTREGVA	.KVLDDLK..	.AMDFEFIVC	120
DCPAGIDAFG	ITAITPANEA	VLVTTTPDITA	LRDADRV TGL	LECDGIRDIK		232
DCPAGIDVGF	INAIASAQEA	VIVTTPEITA	IRDADRVAGL	LEANGIYNVK		187
DCPAGIEAGF	RNAVAPAQEA	IIVTTPEMSA	VRDADRVIGL	LEAEDIGKIS		168
DSPAGIETGF	ALMALYFADE	AIITTPEVSS	VRDSDRILGI	LASKSRAEN	GEEPIKEH	178
MIVNRVRTDM	IKGEDMMSVL	DVQEMLGLSL	LGVIPEDSEV	IRSTNRGFPL	VLNKPPTLAG	292
LLVNRVRPDM	IQKNDMMSVR	DVQEMLGIPL	LGAIPEDTSV	IISTNKGEPL	VLNKKLTLSG	247
LIVNRLRPDM	VQLNQMISVE	DILDLLAVPL	IGILPDDQKI	IISTNKGEPL	VMEEKLSVPG	228
LLLTRYNPGR	VSRGDMLSME	DVLEILTILK	VGVIPEDQSV	LRASNQGEPV	ILDINA.DAG	237
LAFEQAARWL	.VEQDSMKAV	MVEEEPCKRG	.FF.SFFGG		Arabidopsis	328
IAFENAARRL	IGKQDYFIDL	TSPQKGMFQK	.LQE.FFLGEE		Chlorella	286
LAFQNIARRL	EG.QDIPFLD	FMAAHNTLLN	RIRRRLLGG		Synnechocystis	266
KAYADTVERL	LGEERPFR..	FIEEE.KK.G	.FLKRLFGG		E. coli	271

Figure 2



D

Figure 3

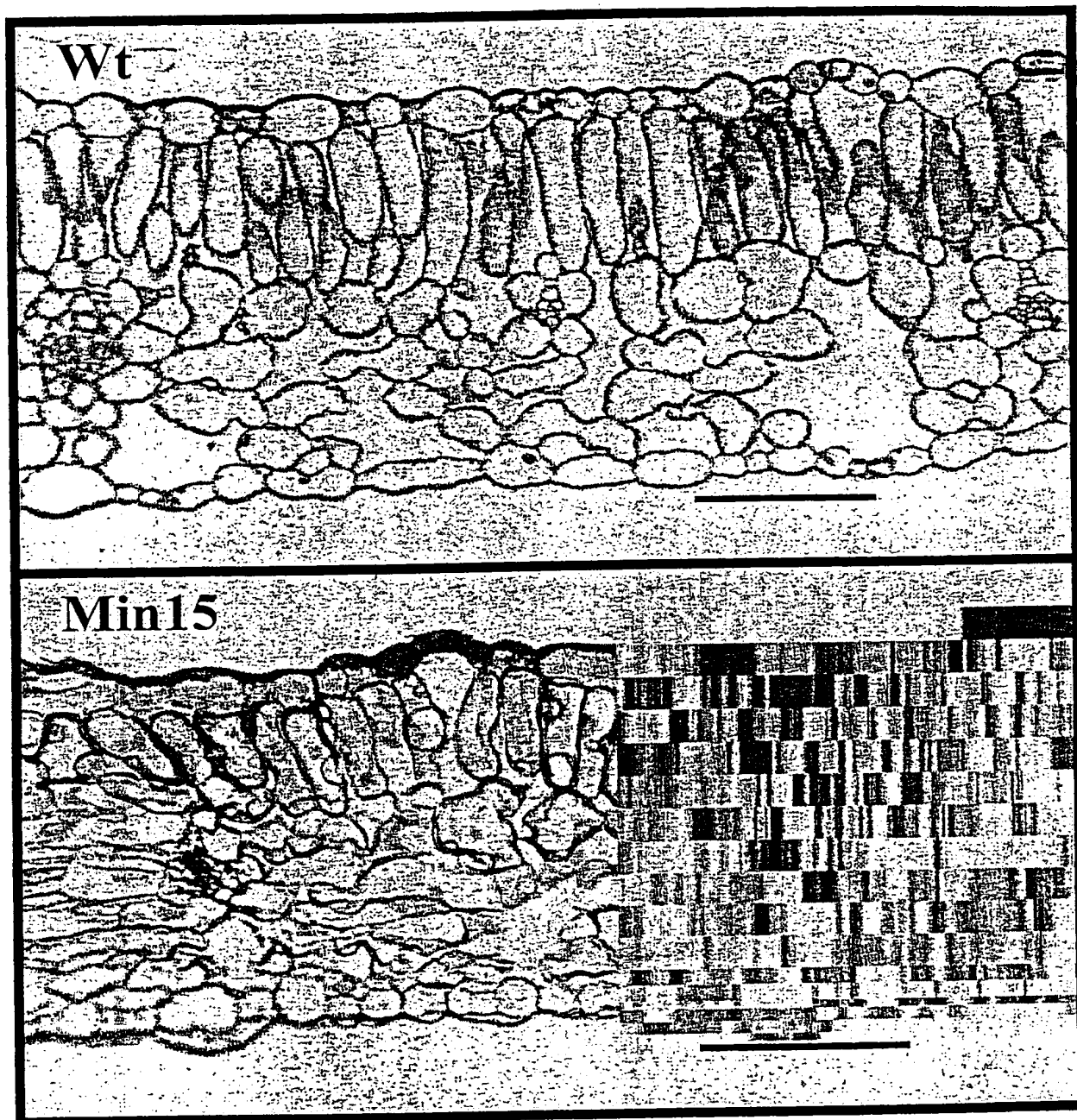
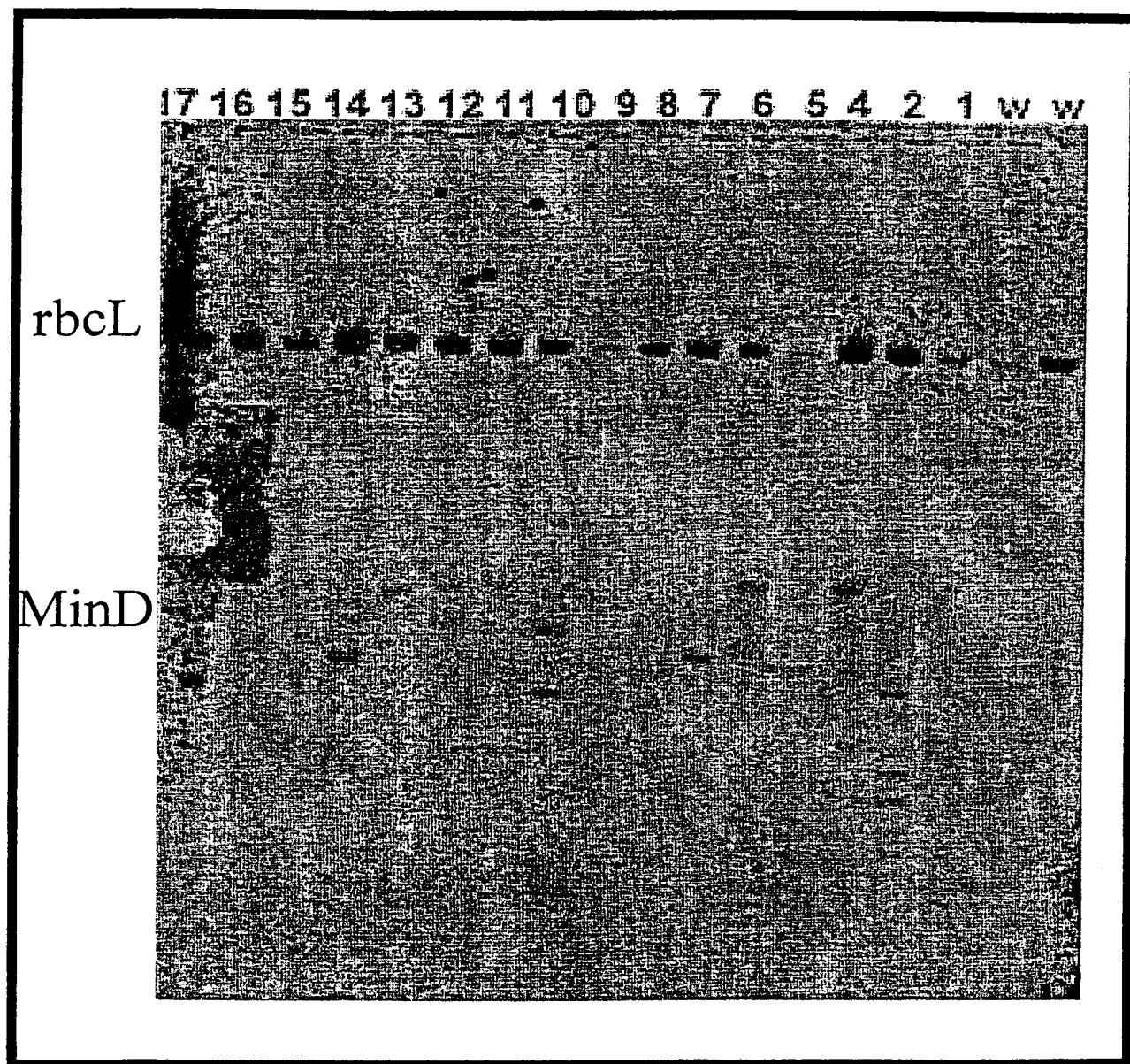


Figure 4



Figure 5



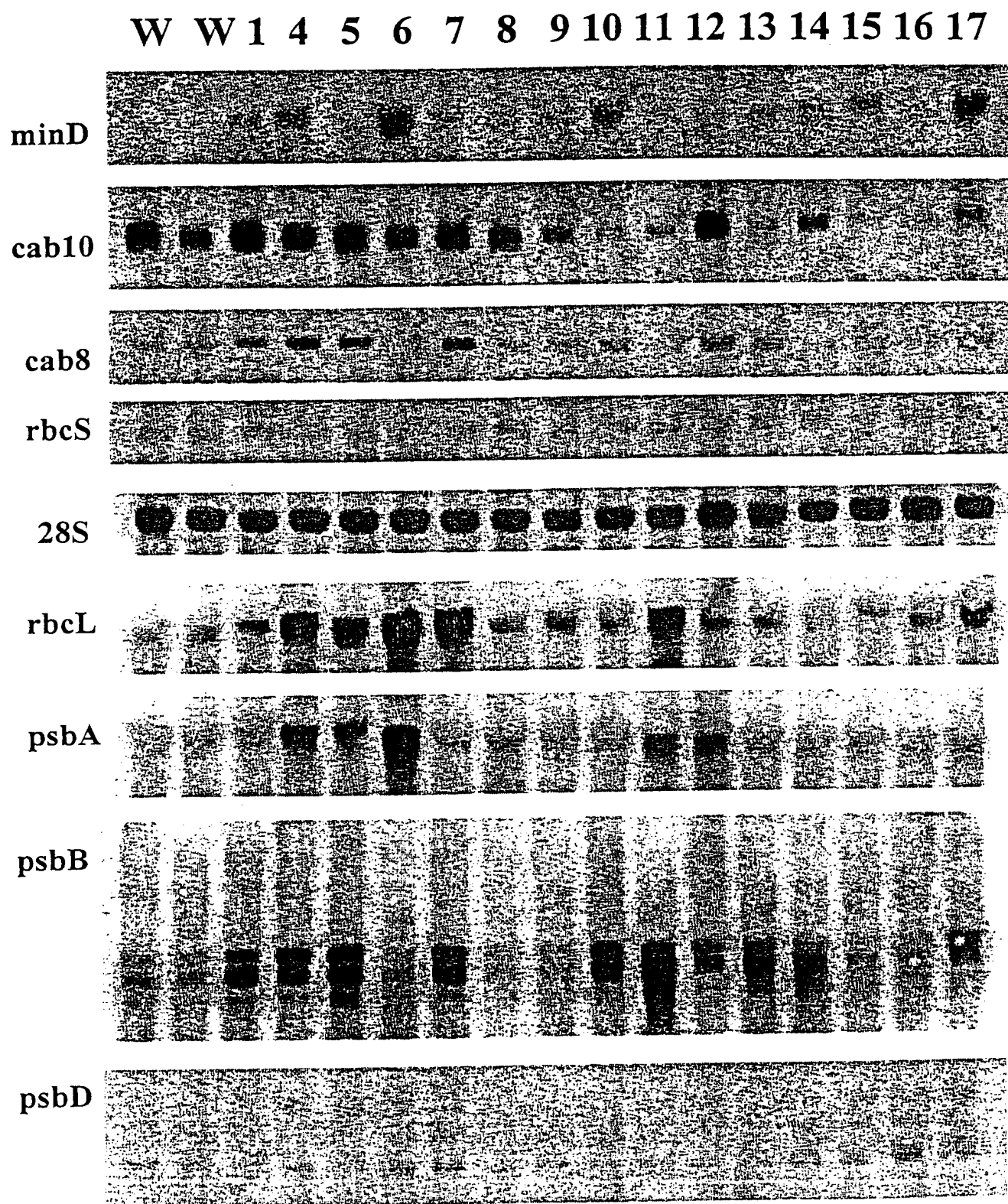


Figure 7

Line	Chlorophyll Content		Fluorescence Measurements		
	Total Chl (ug/mg)	Chla/b (ratio)	F _o (relative units)	F _m (relative units)	F _v /F _m (relative units)
WT	1.99	3.11	137.4±12.0	616.6±34.0	0.777±0.015
<i>AtMin4</i>	1.71	2.64	135.7±11.8	636.2±27.1	0.787±0.017
<i>AtMin5</i>	1.58	3.01	136.5±17.1	534.9±66.1	0.757±0.020
<i>AtMin 8</i>	1.46	3.07	128.5±32.3	489.9±78.6	0.741±0.037
<i>AtMin 9</i>	1.66	3.00	125.5±19.9	520.5±58.3	0.759±0.018
<i>AtMin 10</i>	1.53	2.95	136.5±11.3	543.1±14.3	0.748±0.025
<i>AtMin 17</i>	1.44	2.71	139.5±20.6	564.9±32.7	0.756±0.032
WT	1.69	3.08	105.6±14.9	441.9±58.5	0.760±0.016
<i>AtMin 1</i>	1.74	2.80	126.4±08.6	436.7±27.2	0.714±0.035
<i>AtMin 12</i>	1.60	3.11	123.4±16.6	455.3±84.4	0.724±0.040
<i>AtMin 13</i>	1.91	3.28	115.9±17.9	441.5±64.5	0.737±0.011
<i>AtMin 14</i>	1.59	3.07	113.6±17.2	444.1±58.2	0.743±0.017
<i>AtMin 15</i>	1.59	2.94	119.1±19.5	433.0±45.9	0.724±0.037
<i>AtMin 16</i>	1.71	2.89	122.1±10.7	447.7±41.0	0.725±0.019

The measurements were taken over two days, and due to variation in the F_o and F_m measurements these were kept separate. Fluorescence measurements are averaged from eight samples.

Figure 8

Syne	1		0
Guill	1		0
Ecoli	1		0
Pseudo	1		0
Neiss	1		0
Chlorel	1	MATLLCQGTAFPHRSWSGRKGTREVSKPTLNRLHVRSSSKAGAGFVSD	48
AtMinE	1	MAMSSGTLRISATLVSPYHHHNRRLSLPS;SSSKVVDFTGFIISGVNSLETQKCTPGLAISRENTRGQVKVLARNTGD	77
Syne	1	MILZLIEREFSRSG---KNSCEDLPPKLVLEANC SGL--SPEMMEERRET	48
Guill	1	MITTEFEREFLSN---KGSREDVSPKIVLNHC STL--NASTLEKMRZE	47
Ecoli	1	MALDFTLSRK---KNTANIAREPCLIVAREP RSD-AEPHYLPQTRRDE	46
Pseudo	1	MSELDFFSRKS---CNSASINHEPCLIVAREP GQR-AQPDYLPQOKDE	47
Neiss	1	MSEILDFGRK---QKTATVANCPCILVACE AQEGQTPDYLPTRKEI	47
Chlorel	49	AHLAR---LRNAGHPVPEAPGLQGFVAKLKAHQIEFPEKPPV-LTPKDESNKCRMTNAC CGI--TPDSLTCMRSEI	122
AtMinE	80	YELSPSPAQEIESFLYNAINMGFTDRINLWKRIFFPSHASRSSNARINCCPFLMUESC CDV--SDEAKRKIVNME	154
Syne	49	LEWISKYEDC-PGEVERESLESD-CRMTALIANIPARRVR-----RTKAKSEACES	97
Guill	48	DLVSKYEDD-TDSEERSIRTD-SKMTALIANIPARRIL-----KDI	88
Ecoli	47	PEWICKYDID-PEMTTVQLEQKDCGDISLEENVTIPEAE-----ELK	86
Pseudo	48	LEWIRKYEDD-QEQCHLELNO-GNCSTLEENVTIPEDR-----KV	84
Neiss	48	LEWISKYEDVS-LDNIRISQEKQDC-MDLLEENVTIPEQR-----KV	87
Chlorel	123	GCAYSAYDIEETEEETENLSTPELGTYSALPYRRVKSRIGGVDTSEDGKIIVKWDPKDPNSDPSCDFPGV	198
AtMinE	157	IRHSDDEIEIESEKKQINVSTGDLGTYSATYPVRRVKP-EYQVDDEAGTITNVEYKTRDGSVDVRFDFYVPE	229

Figure 9

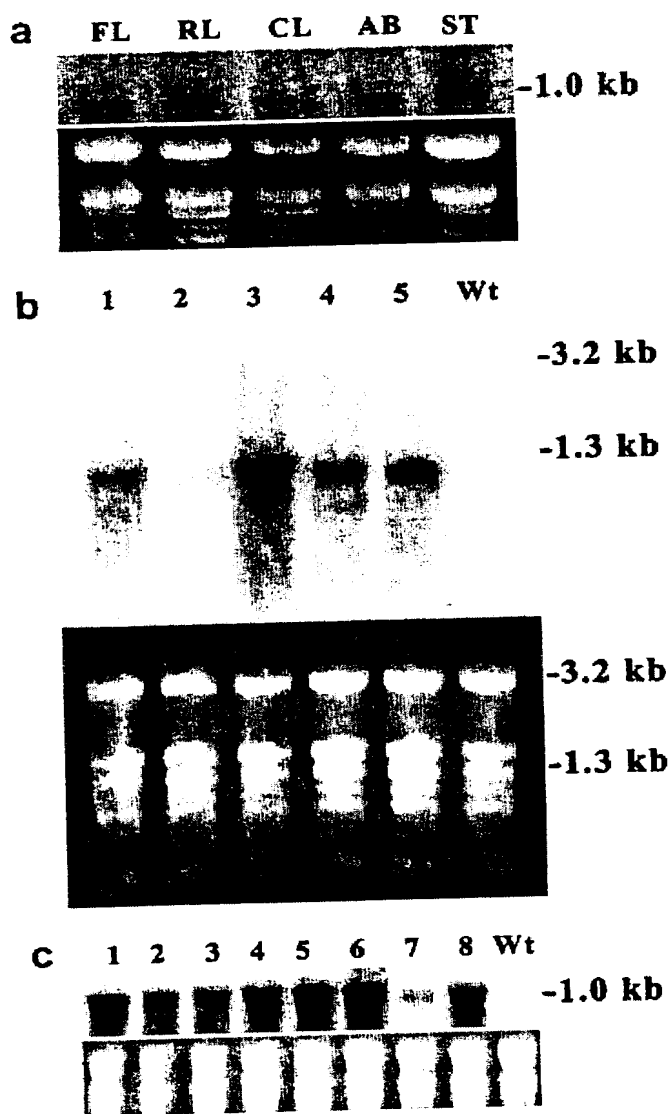


Figure 10

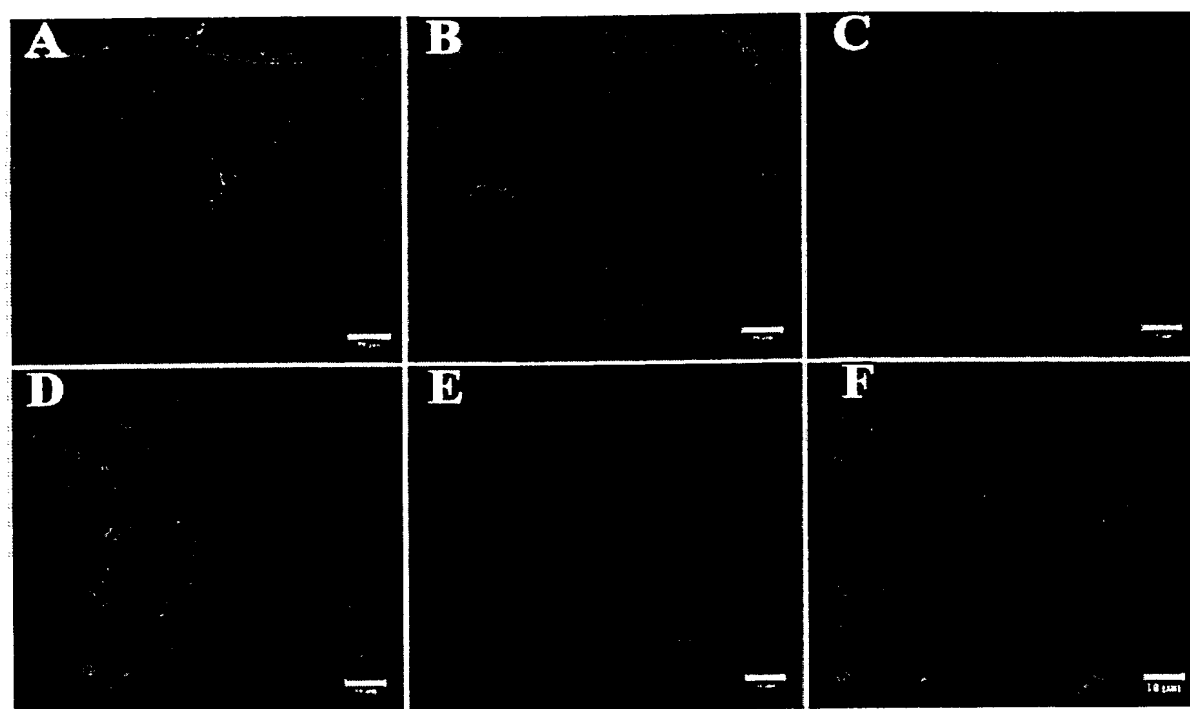


Figure 11

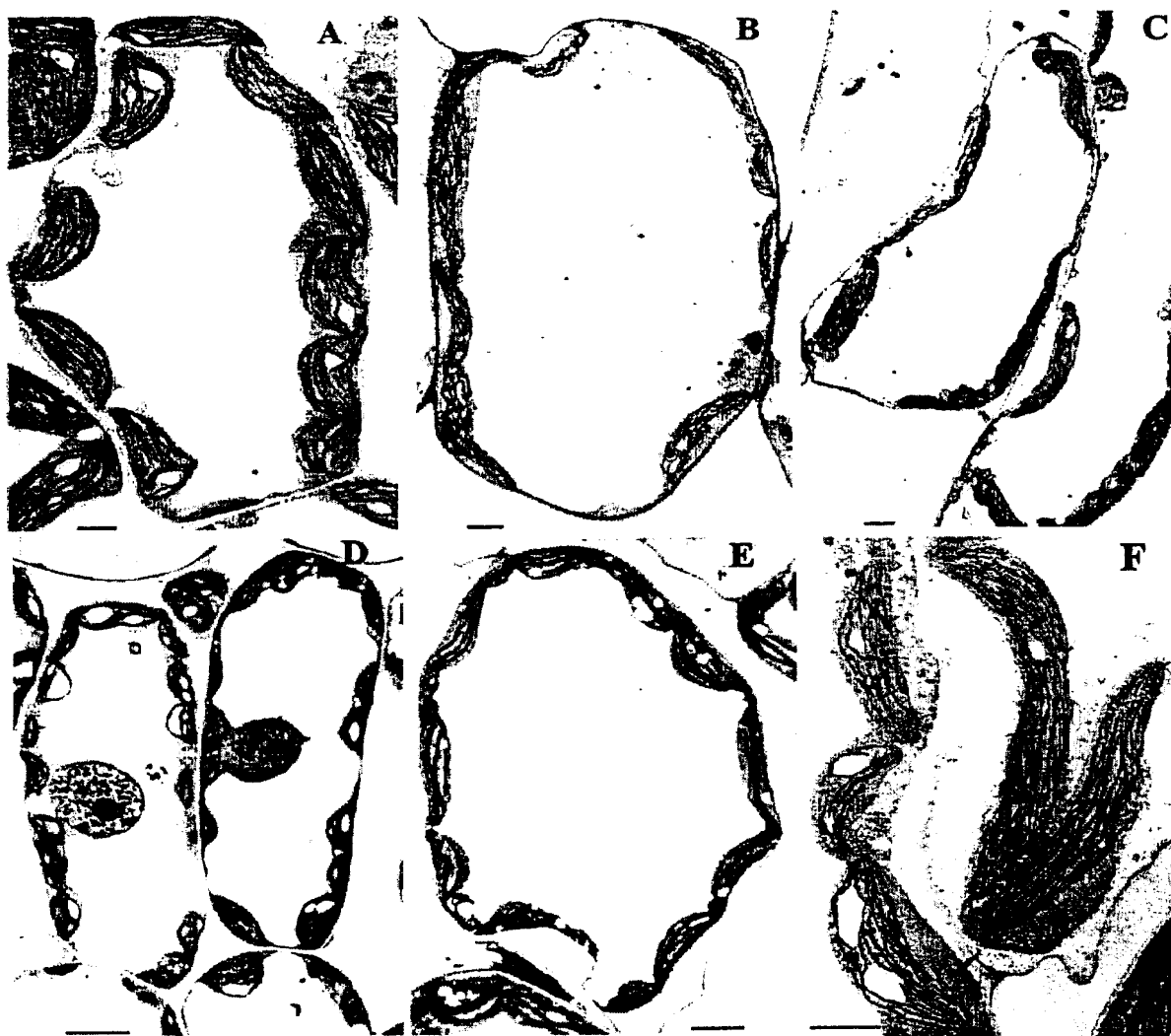


Figure 12

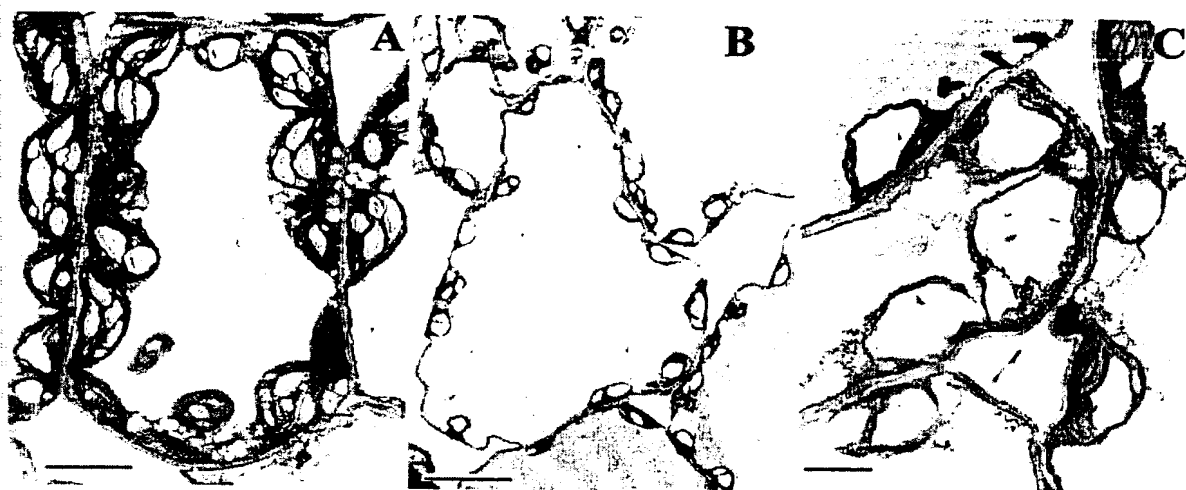


Figure 13

